

COMBO • PUMP

OPERATING INSTRUCTIONS

Thank you for purchasing the COMBO•PUMP precision compound hand pump! The COMBO•PUMP is a combined high pressure and vacuum pump for use as a field pressure source and is to be used only with air (pneumatic) systems. Do not use the COMBO•PUMP with liquids of any kind. For safe and reliable operation please spend a couple of minutes reading the following instructions.

WARNING: To prevent damage to the pump and possible injury to the operator or bystanders never connect the COMBO•PUMP to a pressure source greater than 500 psig (3450 kPa). Turn off, or isolate, all pressure-generating equipment from the pressure tap prior to connecting the COMBO•PUMP.

NOTE: The standard 300 psi pressure COMBO•PUMP has "300" printed on the pump body label on the opposite side of the vent knob. The 500 psi (Extended Pressure Range) version has "500" on the label.

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1. Your COMBO•PUMP will have one of three different fitting configurations. (1) The standard pump has no fitting(s) supplied. (2) It may have the optional quick-connect fitting(s) installed. (3) It may have the quick-connect tubing kit accessory. In all cases you will need to select the appropriate adapter fitting to connect the COMBO•PUMP to your pressure tap and pressure indicating device. All COMBO•PUMP fitting configurations will require one end of your adapter fitting to be 1/8"-27 NPT male pipe thread.
CAUTION: Your fitting must have a pneumatic pressure rating of at least 750 psig (5175 kPa). Where possible avoid changing the quick-disconnect fitting installed on the COMBO•PUMP to prevent damage to the threads of the pump body. Be very careful not to over-tighten fittings.
2. Connect the COMBO•PUMP to your test set-up. Select whether you want PRESSURE MODE or VACUUM MODE. This is done by moving the vertical shuttle valve (the one with the black knob on the top and bottom of the COMBO•PUMP). Moving the shuttle valve to the UP position puts the pump in PRESSURE MODE and the valve in the DOWN position is the VACUUM MODE. Make certain the valve is fully UP or fully DOWN.
3. Close the VENT KNOB by turning it fully clockwise. Do not overtighten - just fingertight will do!
4. You are now ready to perform your pressure or vacuum calibration. Squeeze the COMBO•PUMP's handle until you are close to the desired calibration pressure or vacuum.
5. To make pressure or vacuum adjustments turn the vernier adjustment knob (the bottom knob next to the the squeeze handle) to "fine-tune" the desired pressure or vacuum.
6. After the test is complete open the VENT KNOB to completely release pressure or vacuum. The vent knob can also be used to slowly bleed the system by opening it only a slight amount and closing it once the desired sure or vacuum is reached. **CAUTION:** Be sure to close the vent knob fully once the system is fully vented to prevent the vent knob from vibrating loose.

NOTE: USE ONLY Teflon tape on the threads of any pressure fittings to install your own fittings onto the COMBO•PUMP. **DO NOT USE** liquid pipe sealing compounds (such as "pipe dope").

The COMBO•PUMP is covered by a 1 year warranty against pressures leaks and defects in materials or workmanship. This warranty does not cover physical abuse or misuse. Contact the factory for all repair needs, regardless if the COMBO•PUMP is covered by the warranty or not! **Repair or replacement of any parts must be performed only by the factory.** Do not attempt to substitute alternate parts or the warranty will be voided and damage to the pump or personal injury may result. **REMEMBER!! YOUR SAFETY COMES FIRST!! THIS IS A HIGH PRESSURE PUMP. DO NOT ATTEMPT YOUR OWN REPAIRS!!**